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INTEROFFICE CORRESPONDENCE

DATE: June 30, 1995

TO: L. J. Peterson-Wright, Operable Unit 7 Project, Bldg. 080, X8553

FROM: A. P. McManigle, Air Quality Branch, Bldg. T893B, X7240 APM

SUBJECT: AIR QUALITY REVIEW - PASSIVE SEEP COLLECTION AND TREATMENT OF OPERABLE UNIT NO. 7 - APM-010-95

The Air Quality Branch has been asked to evaluate the Passive Seep Collection and Treatment of Operable Unit (OU) No. 7 - Present Sanitary Landfill and Inactive Hazardous Waste Storage Area Project for air quality issues concerning radionuclide and non-radionuclide air emissions, Air Pollutant Emission Notices (APENs), and air permits.

In summary, the purpose of the Passive Seep Interception and Treatment project is for the interception and treatment of water seeping from the Present Landfill into the East Landfill Pond, OU No. 7 at the Rocky Flats Environmental Technology Site (Site). The objective of the project is to eliminate the discharge of Resource Conservation and Recovery Act (RCRA) F039 listed waste contained in the seep water to a surface water body. According to the 1986 Waste Stream Identification Characterization (Rockwell International, 1986) report, multiple waste streams believed to contain RCRA listed hazardous wastes were disposed in the Present Sanitary Landfill prior to 1986. The seep water exhibits concentrations of dissolved metals, radionuclides, volatile organic compounds (VOCs), and semi-VOCs that exceed protective standards. Those constituents in the seep water from the existing landfill that exceed the protective standard will be intercepted and treated.

The seep interception system will require excavating a trench approximately 48 feet long, six feet wide, and four feet deep near the base of the east face of the present landfill. The total amount of soil excavated will be approximately 45 cubic yards. The trench will be excavated in Individual Hazardous Substance Site (IHSS) 114. Soil samples reveal low-levels of dissolved metals, radionuclides, VOCs, and semi-VOCs. Water spray will be used to suppress diffuse emissions during the excavation. The interception system consists of a 4 inch perforated polyvinyl chloride pipe in a 2 foot gravel layer over a 60 millimeter high density polyethylene liner. The system is intended to collect all flows from the landfill and entering the pond. The trench will be back-filled once the interception system has been installed. Excavation activities are scheduled to start September 1995 and to be completed by November 1995. The reference document describing the project is identified as *"Modified Proposed Action Memorandum Passive Seep Collection and Treatment Operable Unit No. 7 - Present Landfill (IHSS 114) and Inactive Hazardous Waste Storage Area (IHSS 203),"* Draft RF/ER-95-0086.UN, June 1995.

ADMIN RECORD

Radionuclide Assessment

It is possible that radioactive air emissions could occur from treatment of the contaminated seep water. Excavation of the trench will create diffuse radionuclide soil emissions to the atmosphere. Approximately 1,900,000 gallons of contaminated seep water per year and 80,000 kilograms of soil will be exposed to the atmosphere. Based on the average seep water and soil concentration data and emission factors from 40 CFR 61, Appendix D, the dose to the public from the excavation and treatment process will be approximately 2.38E-07 millirem effective dose equivalent (EDE). The dose was calculated using the computer dispersion model CAP88PC.

The calculated dose to the public is less than the regulatory standard of 0.1 millirem EDE, which requires Environmental Protection Agency (EPA) approval. However, the project and the resulting dose will be reported in the 1995 Annual Air Emission report.

Non-radionuclide Assessment

Based on bounding assumptions: the air pollutants demonstrating the highest concentration in the soil and seep water are lead and toluene. Emissions are estimated as 5.2 pounds of lead and 6.54E-1 pounds of toluene per 1,900,000 gallons of seep water and 80,000 kilograms of soil. These levels are below the 250 pound reporting threshold for a specific HAP, the 2,000 pound reporting threshold for total VOC emissions, and the 100 pound per year level for lead.

The Colorado Air Quality Control Commission Regulation No. 3 regulates non-radionuclide air pollutant emissions for all Colorado industries. The provisions of this regulation identify criteria and HAPs, establish air inventory reporting thresholds for regulated air pollutants, and set forth both construction and operating permit application guidelines. An evaluation of the excavation and treatment project indicates that there are no reportable quantities of criteria air pollutant and HAP emissions generated from the activities. Based on the provisions of Regulation No. 3, this operation is not subject to air emission inventory or air permitting requirements.

You may proceed with the project as planned. Please keep me informed of the project progress, particularly if the project parameters change. If you need additional assistance or have any questions concerning this matter, please contact me at X7240 or digital page 1375.

APM

cc:
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